

Snowy Plover

(*Charadrius alexandrinus nivosus*)

Legal Status

Federal: Threatened (applies only to coastal population which excludes Yolo County)

State: Species of Special Concern



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Global and State Conservation Status: G4T3S2: Global rank, G4 = Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors; T Rank, Same as global rank but related only to the status of the subspecies throughout its range, T3 = Vulnerable: At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; State rank, S2 = Imperiled: Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

Recovery Plan: The U.S. Fish and Wildlife Service prepared a Recovery Plan for the Peregrine Falcon (coastal population) (*Charadrius alexandrinus nivosus*) in 2007 (USFWS 2007) but it does not apply to the species in Yolo County.

Species Description and Life History

Snowy plover (*Charadrius alexandrinus nivosus*) are medium-distance migrants that nest primarily in the United States and winter in coastal areas of the southeastern U.S., and in Mexico and Central America (Page *et al.* 1995a). They are much paler than other species of plovers in California.

Seasonal Patterns

Arriving on their breeding grounds in February to March, snowy plovers nest in sand dunes on beaches and lake, on shores of alkaline lakes, in dry evaporation ponds, and rarely on unvegetated islands in freshwater ponds. Fall migration is protracted and can extend from mid-June until mid-November (Page *et al.* 1995).

Reproduction

Males dig scrapes for nests in sand or bare ground during courtship (Page *et al.* 1995a). Females initiate egg-laying within a few days after nest construction is complete and a clutch typically comprises 3 eggs. Females incubate the eggs for 26-32 days. The precocial young are able to forage for themselves soon after hatching, but are brooded and watched by parents until they are independent at 29-47 days old (Page *et al.* 1995a).

Home Range/Territory Size

Both paired and unpaired males defend territories against conspecifics for up to 45 days. Paired birds use territories for courtship, nest sites, and occasionally foraging. In California, most territories are < 0.5 ha (Page *et al.* 1995).

Foraging Behavior and Diet

Snowy plovers forage on beaches, tidal flats, salt flats, and salt ponds. They probe in the sand for crabs (*Pachygrapsus crassipes*), polychaetes (*Lumbineris zonata*), amphipods (*Corophium* spp.), sand hoppers (Orchestoidea), flies (Ephydriidae, Dolichopodidae), and other invertebrates (Page *et al.* 1995).

Habitat Requirements and Ecology

Nesting

In California, snowy plovers are found year-round, but breed and winter in different locations and habitats. Snowy plovers are restricted to nesting in unvegetated open areas primarily in sand dunes, but also on alkali lakeshores and dry evaporation ponds (Page *et al.* 1995a). Most snowy plovers that breed in the Central Valley migrate to the coast to winter primarily on beaches and a few dry evaporation ponds (Page *et al.* 1986, 1995b), but several hundred remain to winter in the evaporation ponds in the southern San Joaquin Valley (Shuford *et al.* 1995). Inland nesting birds begin to leave the breeding areas by early July and finish migrating by mid-October (Page *et al.* 1995a).

Foraging

While they often forage near their nesting territories, they also move considerable distances to find food on sandy beaches and along alkaline lakeshore fringes (Page *et al.* 1995).

Species Distribution and Population Trends

Distribution

Snowy plovers breed throughout much of the interior western United States and winter in Mexico and a few locations in California (Page *et al.* 1995). In California, snowy plovers winter in isolated sites in the Central Valley, the Mojave Desert, Salton Sea, and the coast (Page *et al.* 1986, 1995).

Population Trends

Declines in populations of the snowy plover in California are a result of habitat loss and human disturbance of nesting colonies on beaches and probably from increase predation

from gulls and ravens (*Corvus corax*) that have increased in California in recent years (U.S. Fish and Wildlife Service 2007). Human disturbance is also known to reduce chick survival rates (Ruhlen et al. 2003). However, because there were no estimates of historical population levels in the Central Valley, the extent of population trends of this metapopulation is not fully understood.

Distribution and Population Trends in the Plan Area

In Yolo County, snowy plovers have nested twice at the Yolo Bypass Wildlife Area in 1998, and at the Old Davis Sewage Ponds in 1963; they have also been detected during migration at that location as well as the Davis Wetlands and the Woodland Wastewater Treatment Plant (Yolo Audubon Society Checklist Committee 2004).

Threats to the Species and Other Conservation Issues

Snowy plover eggs and young are highly susceptible to predation from mammals, common ravens and gulls in the Central Valley (J. Seay pers. comm.). Ravens, in particular, are known to make systematic flights over breeding areas in search of these cryptically-colored birds and their nests (Page *et al.* 1979). In addition, incubating birds are especially sensitive to human disturbance, and they often run from their nests at the approach of humans and their pets. Nests are sometimes crushed by people walking on them or by vehicles driving over them on sandy beaches or along lakeshores (Page *et al.* 1995). Impacts from contaminants appear to be minimal at agricultural wastewater ponds in the San Joaquin Valley, where documented deformities in other shorebirds are not as frequent among snowy plovers, suggesting that selenium may not be as toxic to them as for other aquatic species (Page *et al.* 1995).

Significant data gaps relating to many aspects of the ecology of the snowy plover exist. Data gaps include parameters of population sinks, local variation in nest success and predation, and foraging ecology in the Central Valley especially during the migratory period. Many wetland areas in the Central Valley appear to be unoccupied, but apparently comprise suitable habitat for snowy plover (Sterling pers. obs.). In addition, factors determining local population fluctuations need to be fully understood in order to guide effective management actions to increase and stabilize populations at local carrying capacity.

Contributors to this species account:

Ted Beedy, Independent Biological Consultant
 Jim Estep, Independent Biological Consultant
 John Sterling, HT Harvey & Associates

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